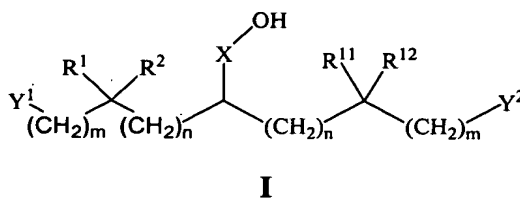
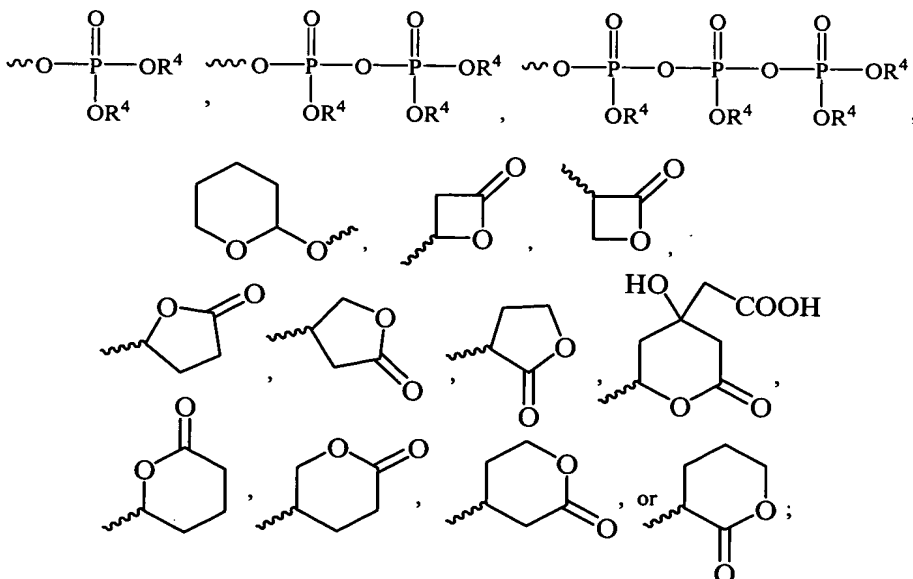


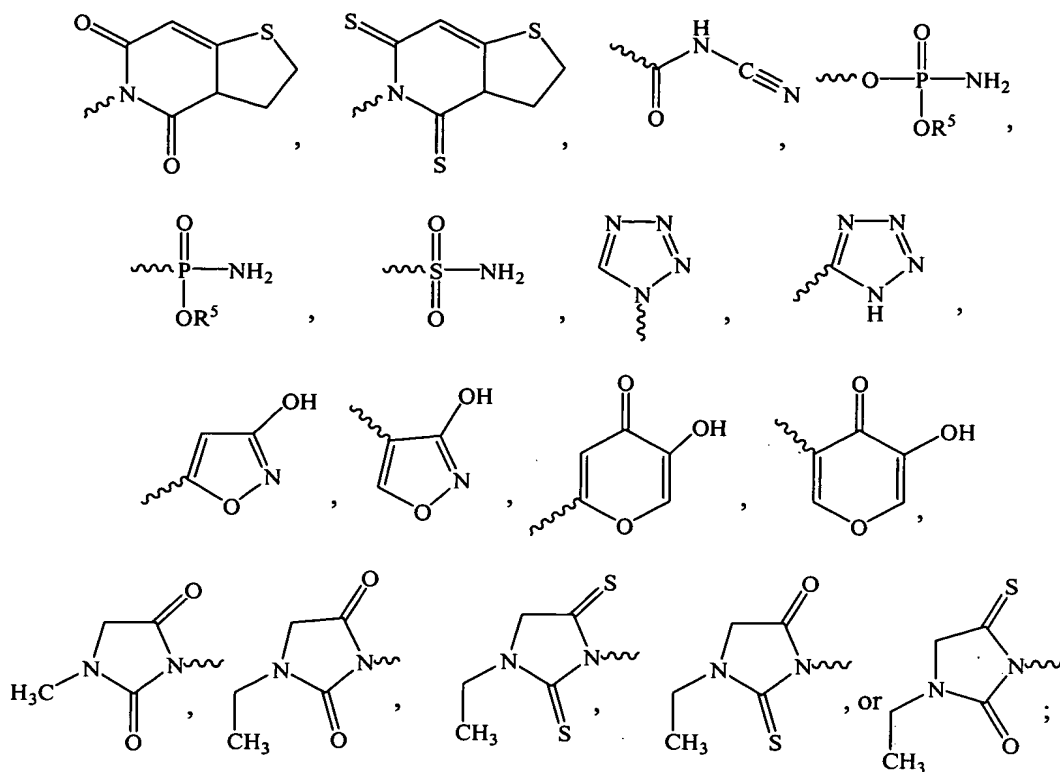
WHAT IS CLAIMED:

1. A compound of formula I:



- 5 or a pharmaceutically acceptable salt, hydrate, solvate or a mixture thereof, wherein:
- (a) each occurrence of m is independently an integer ranging from 0 to 5;
- (b) each occurrence of n is independently an integer ranging from 3 to 7;
- (c) X is (CH₂)_z or Ph, wherein z is an integer from 0 to 4;
- 10 (d) each occurrence of R¹ and R² is independently (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, benzyl, or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group;
- (e) each occurrence of R¹¹ and R¹² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group;
- 15 (f) each occurrence of Y¹ and Y² is independently (C₁-C₆)alkyl, OH, COOH, COOR³, SO₃H,





wherein:

- (i) R^3 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,
- (ii) each occurrence of R^4 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with one or two halo, OH, C_1-C_6 alkoxy, or phenyl groups; and
- (iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl.

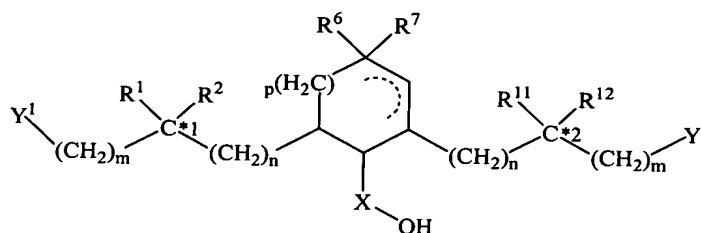
2. The compound of claim 1, wherein each occurrence of Y^1 and Y^2 is independently OH, $COOR^3$, or COOH.

3. The compound of claim 1, wherein m is 0.

4. The compound of claim 1, wherein m is 1.

5. The compound of claim 1, wherein n is 4.

6. The compound of claim 1, wherein n is 5.
7. The compound of claim 1, wherein X is $(CH_2)_z$ and z is 0.
8. The compound of claim 1, wherein each occurrence of R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group.
- 5 9. The compound of claim 1, wherein Y^1 and Y^2 are each independently (C_1-C_6) alkyl.
10. The compound of claim 1, wherein Y^1 and Y^2 are each methyl.
11. A compound of the formula II:



II

- 10 or a pharmaceutically acceptable salt, hydrate, solvate, or mixtures thereof, wherein
- (a) each occurrence of R^1 and R^2 is independently (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, benzyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
 - 15 (b) each occurrence of R^{11} and R^{12} and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
 - (c) each occurrence of n is independently an integer ranging from 1 to 7;
 - (d) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4;
 - (e) each occurrence of m is independently an integer ranging from 0 to 4;
 - 20 (f) each occurrence of Y^1 and Y^2 is independently (C_1-C_6) alkyl, CH_2OH , $C(O)OH$, $OC(O)R^3$, $C(O)OR^3$, SO_3H ,

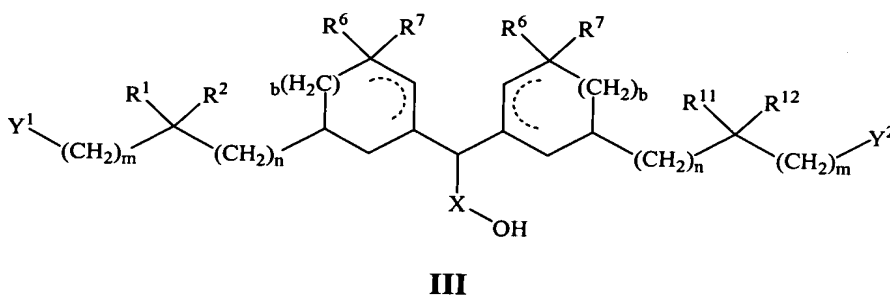
24. The compound of claim 11, wherein C*¹ C*² are of the stereochemical configuration (S¹,S²) or substantially (S¹,S²).

25. The compound of claim 11, wherein C*¹ C*² are of the stereochemical configuration (S¹,R²) or substantially (S¹,R²).

5 26. The compound of claim 11, wherein C*¹ C*² are of the stereochemical configuration (R¹,R²) or substantially (R¹,R²).

27. The compound of claim 11, wherein C*¹ C*² are of the stereochemical configuration (R¹,S²) or substantially (R¹,S²).

28. A compound of formula III:



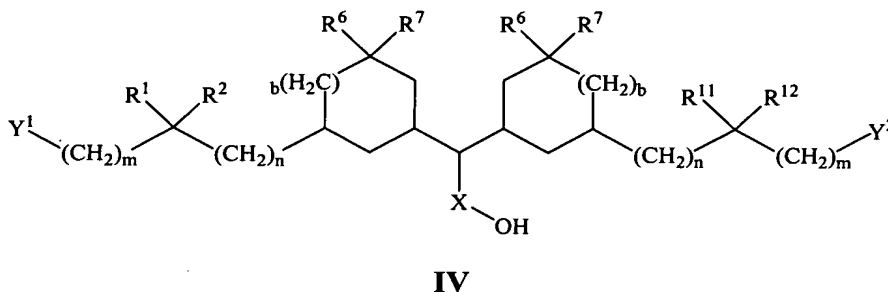
or a pharmaceutically acceptable salt, hydrate, solvate, or mixtures thereof, wherein:

- 15
- (a) each occurrence of R¹ and R² is independently (C₁–C₆)alkyl, (C₂–C₆)alkenyl, (C₂–C₆)alkynyl, phenyl, benzyl, or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃–C₇)cycloalkyl group;
- (b) each occurrence of R¹¹ and R¹² and the carbon to which they are both attached are taken together to form a (C₃–C₇)cycloalkyl group;
- (c) each occurrence of n is independently an integer ranging from 1 to 7;
- (d) X is (CH₂)_z or Ph, wherein z is an integer from 0 to 4;
- 20 (e) each occurrence of m is independently an integer ranging from 0 to 4;
- (f) each occurrence of Y¹ and Y² is independently (C₁–C₆)alkyl, CH₂OH, C(O)OH, OC(O)R³, C(O)OR³, SO₃H,

(iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl; and

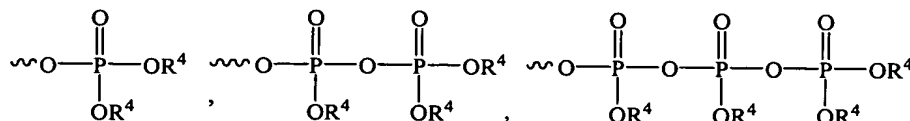
- (f) each occurrence of b is independently 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

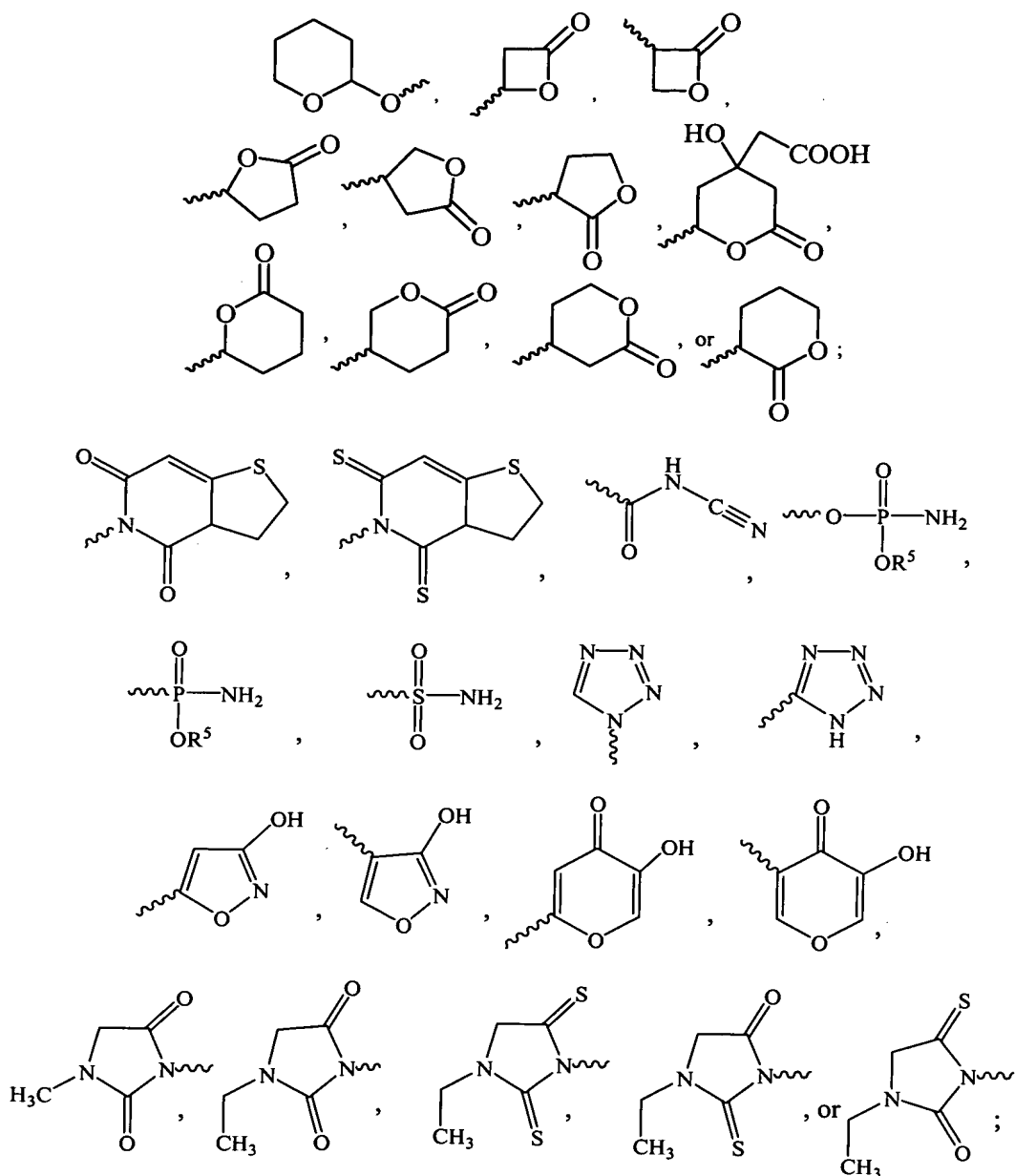
29. A compounds of formula IV:



or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

- (a) each occurrence of R^1 and R^2 is independently (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, benzyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
- (b) each occurrence of R^{11} and R^{12} and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
- (c) each occurrence of n is independently an integer ranging from 1 to 7;
- (d) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4;
- (e) each occurrence of m is independently an integer ranging from 0 to 4;
- (f) each occurrence of Y^1 and Y^2 is independently (C_1-C_6) alkyl, CH_2OH , $C(O)OH$, $OC(O)R^3$, $C(O)OR^3$, SO_3H ,





wherein:

5

(i) R³ is (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C₁-C₆)alkoxy, or phenyl groups,

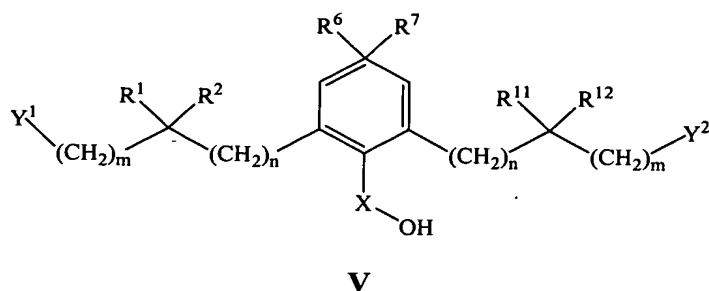
10

(ii) each occurrence of R⁴ is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, or (C₂-C₆)alkynyl and is unsubstituted or substituted with one or two halo, OH, C₁-C₆ alkoxy, or phenyl groups;

(iii) each occurrence of R⁵ is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, or (C₂-C₆)alkynyl; and

- (g) b is 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

30. A compound of formula V:



or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

- (a) each occurrence of R^1 and R^2 is independently (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, benzyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;

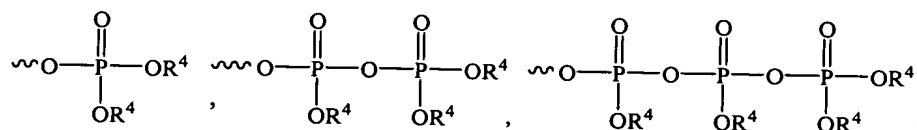
- (b) each occurrence of R^{11} and R^{12} and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;

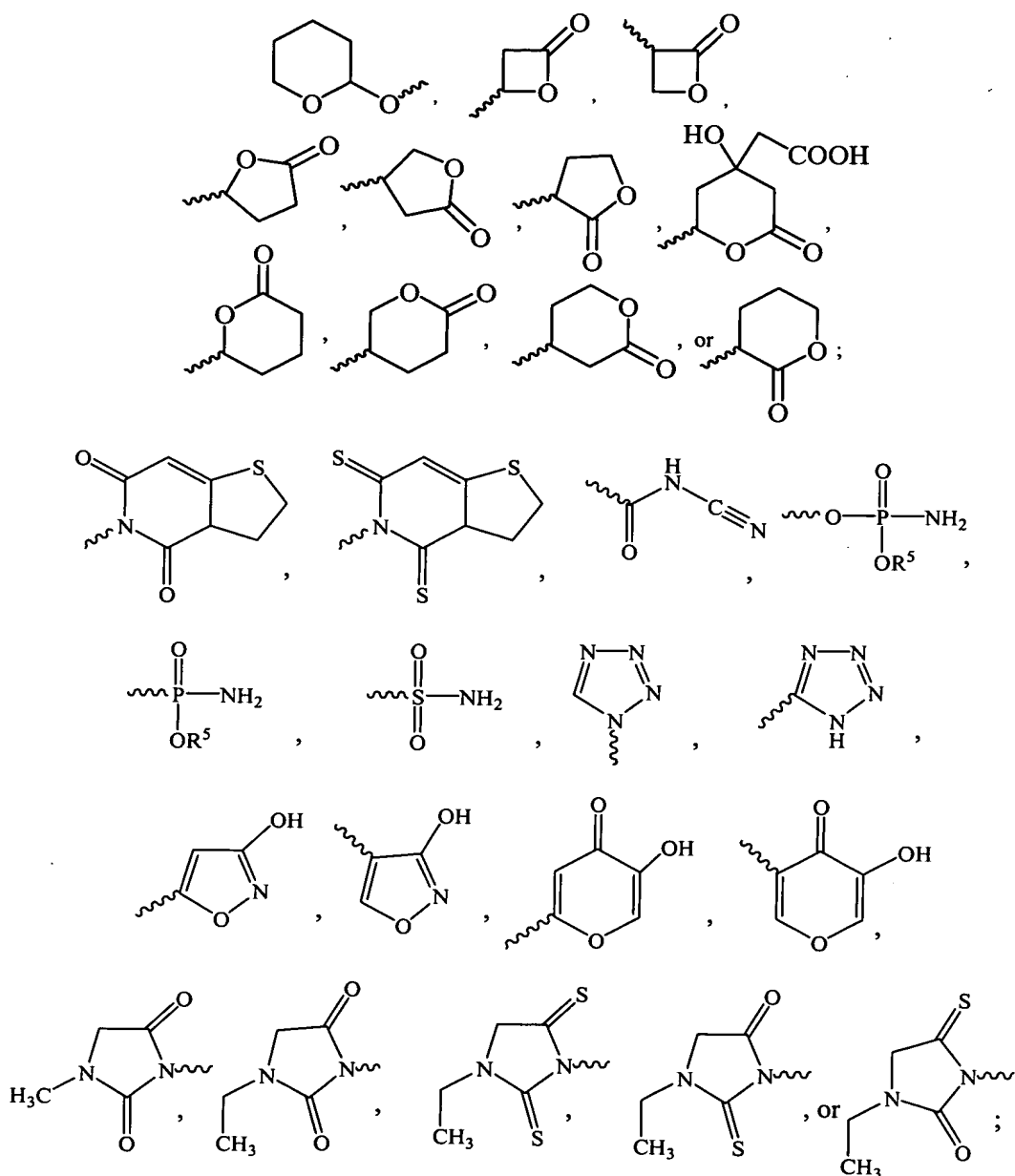
- (c) each occurrence of n is independently an integer ranging from 1 to 7;

- (d) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4;

- (e) each occurrence of m is independently an integer ranging from 0 to 4; and

- (f) each occurrence of Y^1 and Y^2 is independently (C_1-C_6) alkyl, CH_2OH , $C(O)OH$, $OC(O)R^3$, $C(O)OR^3$, SO_3H ,





wherein:

5

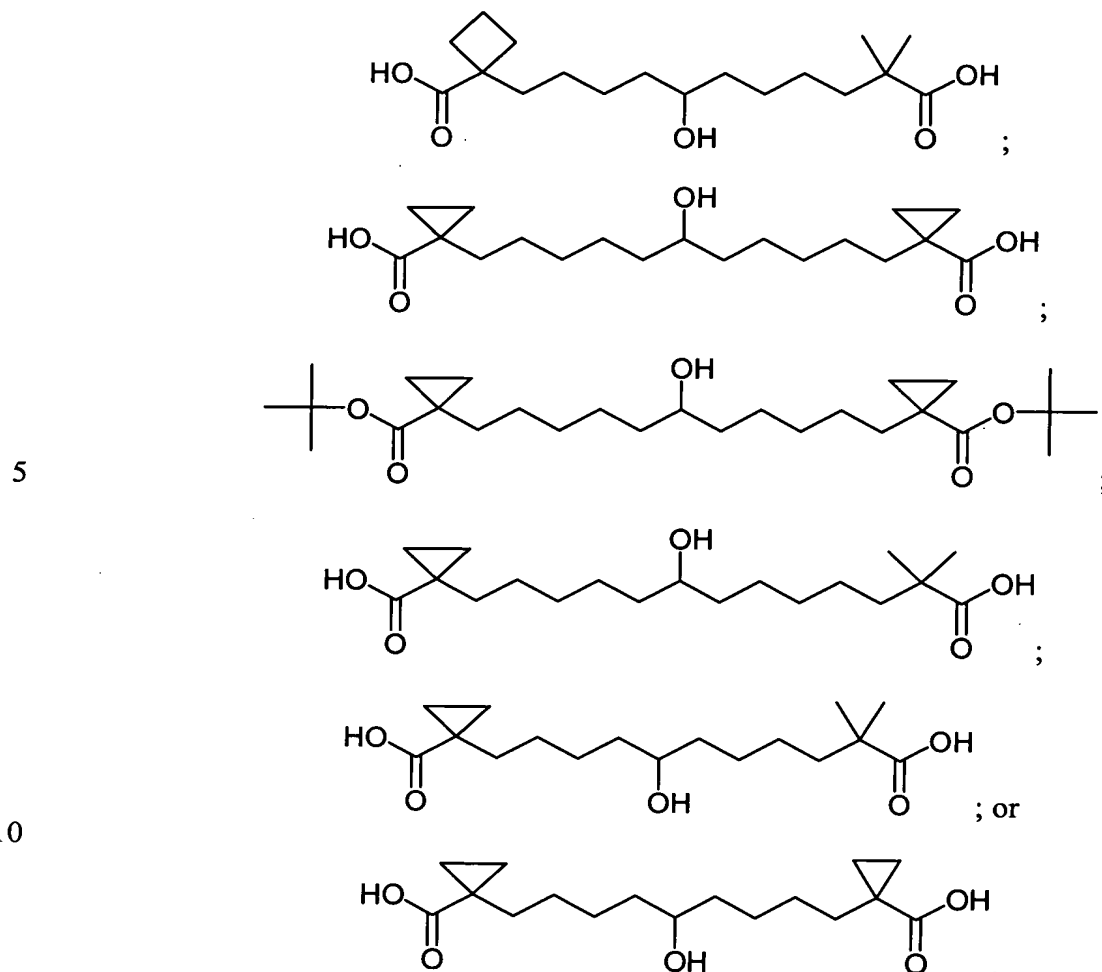
(i) R³ is (C₁–C₆)alkyl, (C₂–C₆)alkenyl, (C₂–C₆)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C₁–C₆)alkoxy, or phenyl groups,

10

(ii) each occurrence of R⁴ is independently H, (C₁–C₆)alkyl, (C₂–C₆)alkenyl, or (C₂–C₆)alkynyl and is unsubstituted or substituted with one or two halo, OH, C₁–C₆ alkoxy, or phenyl groups; and

(iii) each occurrence of R⁵ is independently H, (C₁–C₆)alkyl, (C₂–C₆)alkenyl, or (C₂–C₆)alkynyl.

31. A compound of structure:



32. A pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 and a pharmaceutically acceptable vehicle, excipient, or diluent.

15 33. The pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 further comprising a second therapeutic agent.

20 34. A method for treating or preventing aging, Alzheimer's Disease, cancer, cardiovascular disease, diabetic nephropathy, diabetic retinopathy, a disorder of glucose metabolism, dyslipidemia, dyslipoproteinemia, hypertension, impotence, inflammation, insulin resistance, lipid elimination in bile, obesity, oxysterol elimination in bile, pancreatitis, pancreatitis, Parkinson's disease, a peroxisome proliferator activated receptor-associated disorder, phospholipid elimination in bile, renal disease, septicemia, Syndrome X, thrombotic disorder, modulating C reactive protein, or enhancing bile production in a

patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

35. A method for treating or preventing a cardiovascular disease in a patient,
5 comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

36. A method for treating or preventing a dyslipidemia in a patient, comprising
10 administering to a patient in need of such treatment or prevention a therapeutically, effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

37. A method for treating or preventing a dyslipoproteinemia in a patient,
comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

15 38. A method for treating or preventing a disorder of glucose metabolism in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

20 39. A method for treating or preventing Alzheimer's disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

25 40. A method for treating or preventing Syndrome X in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

41. A method for treating or preventing septicemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

42. A method for treating or preventing a thrombotic disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

5 43. A method for treating or preventing a peroxisome proliferator activated receptor associated disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

10 44. A method for treating or preventing obesity in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

45. A method for treating or preventing pancreatitis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

15 46. A method for treating or preventing hypertension in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

20 47. A method for treating or preventing renal disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

48. A method for treating or preventing cancer in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

25 49. A method for treating or preventing inflammation in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

50. A method for treating or preventing impotence in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
51. A method for treating or preventing a neurodegenerative disease or disorder
5 in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
52. A method of inhibiting fatty acid synthesis in a patient, comprising
10 administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
53. A method inhibiting sterol synthesis in a patient, comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
54. A method of treating or preventing a metabolic syndrome disorder in a
15 patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
55. A pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 and a pharmaceutically acceptable vehicle, excipient, or diluent which is
20 administered in combination with a statin.
56. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by increasing HDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
- 25 57. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by decreasing LDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

(iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl; and

(g) b is 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

5 12. The compound of claim 11, wherein each occurrence of Y^1 and Y^2 is independently OH, $COOR^7$, or COOH.

 13. The compound of claim 11, wherein m is 4.

 14. The compound of claim 11, wherein m is 5.

 15. The compound of claim 11, wherein X is $(CH_2)_z$ and z is 0.

10 16. The compound of claim 11, wherein each occurrence of R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group.

 17. The compound of claim 11, wherein Y^1 and Y^2 is $C(O)OH$ or CH_2OH .

 18. The compound of claim 11, wherein R^3 and R^4 are each independently (C_1-C_6) alkyl.

15 19. The compound of claim 11, wherein R^3 and R^4 are each methyl.

 20. The compound of claim 11, wherein C^{*1} is of the stereochemical configuration R or substantially R.

 21. The compound of claim 11, wherein C^{*1} is of the stereochemical configuration S or substantially S.

20 22. The compound of claim 11, wherein C^{*2} is of the stereochemical configuration R or substantially R.

 23. The compound of claim 11, wherein C^{*2} is of the stereochemical configuration S or substantially S.